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OBSERVATIONS

ON

THE OHEEROO,

A

PALM-TREE.

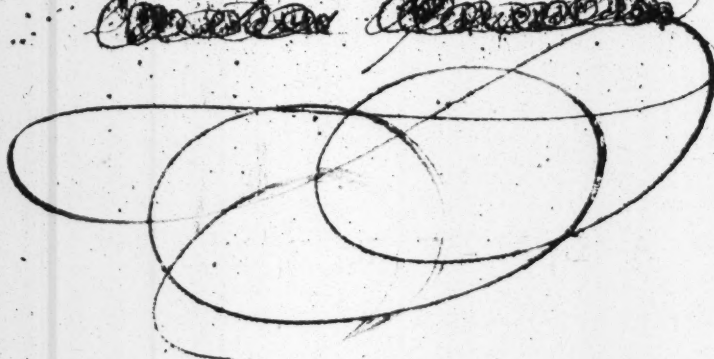
Iustus ut Palma germinabit.

PSAL. xcii. 13.

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~~Discovered~~
~~To the Hon. Secy of the Admiralty~~
~~from the Hon. Secy of the Admiralty~~
~~London~~



OBSERVATIONS

ON THE

OHEEROO, a PALM-TREE.

I.

THE word Ohee signifies an apple, and Roo a tree, in the Arowacks tongue, who are a small tribe of Indians on the coast of Guiana. *in South America*. —

2.

I divide, for the sake of order, these observations, which have been frequently transcribed and amended during a run of years, for an amusement, under the following distinctions.

- 1 Spadix
- 2 Soil and Situation
- 3 Animals
- 4 Sexes and Fructification

A 2

5 Vessels

- 5 Veffels
- 6 Afparagus and Bread
- 7 Juices
- 8 Leaves
- 9 Seed or Apple
- 10 Ufes
- 11 Roots

3.

Sorry am I, that I have no copy of the moft accurately corrected obfervations I made on this tree, which I gave to an honoured friend, yet I prefume the following, partly from recollection, and partly from fome old written obfervations I luckily have preferved, are pretty accurate.

4.

Spadix.

The main fpadix iffues from under the old leaf, or outside ftalk; every leaf, after the tree is 30 feet high, covers an eye, or germen, which
fprings

springs into a spadix, and illustrates to me the verse I have chosen,--*Iustus germinabit.*

5.

The main spadix is a dark brown colour, scaled ; and from each scale about four inches long, issues a smaller spadix, alternately from side to side: The small spadixes lie all one way, that is, bending downwards, perpendicularly from the weight of the apples.

6.

Every small spadix is also jointed or scaled ; and every joint sends out a nub also, alternately, from side to side, about two inches long, which bears two apples, after eight scales from the trunk.

7.

Every main has about 20 small spadixes, and every small spadix about

20 nubbs ; so that one germen, or eye, produces about 400 feed, or apples. *Iustus germinabit.*

8.

The colour of a spadix, full of apples, is exactly the same as an Indian : Nature, all-sufficient, seems to aim in this to represent the human by the vegetable creation ; and the leaf, lank, smooth, and strait, represents Indian's long, lank heads of hair.

9.

I reckon every spadix bearing tree (which I believe are all) to bear from 80 to 160 spadixes, suppose only 100, at an average that is 40,000 apples, or seeds. *Iustus germinabit.*

10.

November, December, January,
yield ripe feed ; June, July, August,
young

young green apples on the spadix ;
March is the only month I could ever
see the fructification; or flower.

I I.

The joints or scales of both the
main and small spadixes, separate
easily when fallen down for some time
on the ground.

I 2.

There are 50 or 60 trunk joints
formed before a spadix issues.

I 3.

The small spadixes at the end of
the main spadix, or farthest from the
trunk, have not the nubbs so close by
half as the half of the main spadix
next the trunk.

I 4.

The main spadix, next the trunk,
is about three inches diameter; at
the end half an inch.

15.

Soil and Situation.

The soil must be a loose turf, for two or three feet, upon a hard, solid clay; the situation is best when breezy, exposed to the wind;---the soil must be fresh, and sometimes overflowed with rains.

16.

Europe, Asia, and Africa, after careful enquiry, I think have none of these trees; they have them, or something much like them, in South Carolina, the trunks whereof they use for pales on wharfs or batteries, if I am well informed.

17.

Where there is only clay, and bushes all round, this tree comes not to such a size as in No. 15, which will make the outside green leaves of a

30 foot trunk form an angle of about 170 degrees from the trunk, and the leaves almost quite strait from the stalk. The poorer the soil, and more confined the situation, the leaf stalks rise more perpendicularly from the trunk; old age in the tree also causes this.

18.

Animals.

A many-footed worm, about 100 feet, which when at rest rolls itself up in a spiral form, inhabits the rotten pulp of the horizontal root.

19.

What the gold coast Negroes call Dyooga, a large, black flying insect, which instantly as a tree is cut down smells the fine vapour exhaling from the pulp juices, and alights on the newly cut parts, and lays its eggs, which eggs, in six weeks, become the
Cabbage

Cabbage-worm, from feeding on the fine, nourishing, wholesome pulp of the cut-down trunk. These worms are about two inches long, and the same round, when alive, and are eat, roasted, or fried, by Whites, Yellows, and Blacks ;---indeed, I prefer them to any animal food whatever. They have a black head.

20.

The Tarantula, which builds about the broad end of the dry stalks.

21.

The Wedge-worm (as I name it) of a green colour, hairy, and found on the leaves of young trees or sprouts, when in their first roots, that is, the tubous, or horizontal roots ; and which Congo and Angola Negroes say in their country is venomous.

The

22.

The Wood-flave, a species of lizard. It keeps between the dry hanging leaf, broad trunk part of the stalk, and the trunk.

23.

Ants and Wood-lice also harbour about this tree ; and a shell, inhabited by a suotive animal, I have often found adhering to a butt end of a stalk, which was moist, being beneath others.

24.

Also a most curious little animal, about two inches long, black and white, as big round as a pin, but it moves nimbly and sprightly ; don't crawl, but draws up its hinder parts to the head, and stands exactly like a Greek letter Omega Ω only it shuts beneath ; then stretches its head to its
utmost

utmost length, and its hind parts up again, and so moves nimbly ; it also runs up and down in the air on a thread of its own, like a spider ; it has six small feet close to the head, and four larger at the tail.

25.

I never saw any birds nests upon this tree, I suppose the slippery skin and shape of the leaves and stalks prevent their being able to make fast their nests to it. We read of the Cedars of Lebanon, where the birds nestle, the storks in the firs, but the palm, the regal palm, is too grand for this.

26.

The Dyoogas wings are four and so exquisitely jointed to shut conveniently under their broad black shining covers, that I think even them a convincing demonstration of the great mechanic

mechanic skill and power of the Creator Blessed.

27.

The Africans as well as the Americans, know well of the dyoogas breeding in new cut down palm trees; and usually cut a wedge shaped piece out of the top part to entice it to lay its eggs there, where softest; and in about six weeks they split up the trunk and take out the fat worms, which are well inclosed in a thick netted cover.

28.

Sexes and Fructification.

The 1st and 2d observation of the roots, must illustrate this. What I call the female tree has whiter and softer fibres at the root than the male, which has blackish, close, hard and solid

solid root fibres, which will last strong ten years after the tree is cut down.

29.

I had observed the tree three or four years before I could find any spadixes with fruitification, at last in March 1780, I observed the nubbs on the small spadixes about $1\frac{1}{2}$ inch long covered with about seventy blossoms distinct one from another.

30.

This blossom was a small calix fixed in the nubbs, three leaves of a brownish colour, issue from the calix, which calix is of a longish shape and within the leaves are *Hexandria Monoginia*, the males stand as on most fructifications on a small short stem filaments, and have a large head anthera, the female in the middle is
close

close to the calix, ^{or} the stigma has no
 stile, but lies on the germen.

31.

It is something strange to me, that
 of about seventy such blossoms usually
 never more than two or at a wonder
 three apples grow upon a nubb; For
 the nubb is covered with blossoms.

32.

The leaves of the fructification are
 very thick, the three leaves when dry
 and pressed together are not so large,
 but shaped as a grain of oats.

33.

Vessels.

The cortex shrinks from the liber
 of this tree when dry, but there is
 communication between the two, by
 horizontal fibres or vessels which ap-
 pear

pear outwardly, like as if dabbed or wounded with a fork on the cortex.

34.

The contex is $\frac{1}{4}$ inch thick and consists of close solid perpendicular bristles or fibres of a dark reddish colour when new cut, the liber is an inch thick and gradually softens into the pulp, which is a spongy corky substance, whitish and interspersed with stiff perpendicular fibres or bristles.

35.

The outside orifices like the dabbing of a fork, penetrating the liber and cortex, when the shrunk cortex is pulled off, are like the rough parts of a grater adhering to the liber, which liber constitutes the binder and former of the trunk; these orifices are closest at the joints, when an
old

old leaf has adhered and cover the main vessels that nourished the leaves, those between the joints must have been for expiration in the heat, and inspiration in the cold, for nourishing and purifying the juices of the trunk; indeed they often send out ramifications of rather fibres like roots.

36.

The fibres or vessels of the root are plainly to be seen when their cortex is taken off, entering the blunt pointed root of the trunk, almost as large as the fibres themselves.

37.

The vessels of the tubous and horizontal roots I observed, but have lost my observations.

38.

Asparagus and Bread.

The asparagus or cabbage of this tree, is the embrio leaves spadixes

B

and

and apples white, tender, and astringent, and is no little labour to cut out one, as they are under the broad ends of fresh green leaf stalks, besides dry ones, five or six of each.

39.

An ordinary tree will afford fourteen inches long, and two and four inches diameter at each end of good cabbage; it is very wholesome boiled, and good for soup, and will ferment soaked in water, but the manufacturing or preparing of this cabbage of old trees into bread, is both curious and useful, in order to this, it is bruised so fine by the hand as to pass a sieve, if the hand wont do, they beat it with a stick, made on purpose, it is then put in a calabash, where the fine, dry, flowry, nutritive substance, settles to the bottom, the waterish

waterish and nash is poured off, and the sediment of the cabbage is kneaded into bread, which when raw will melt in the mouth cold, like snow, but when baked, that is dried over the fire, or roasted in the fire, being inclosed in leaves, it is the finest, whitest, and driest flower, ever I tasted, the outside from gathering a paste or skin quite smooth, keeps it together.

40.

This bread is considered by the Indians as most wholesome, and children will travel far, and bring it to their sick parents, a medicinal, nutritive, and desirable bread.

41.

The end of a dry season is the best time for this bread, and the old trees past bearing apples, are the best bread trees.

42.

Juices.

No part of this tree will yield any juice but the trunk. In dry weather from a wound with an ax, will issue juice which will congeal like jelly, and is undoubtedly both pleasant and wholesome, which if properly manufactured would produce a substance equal to any sago whatever. This article lost.

43.

Leaves.

There are usually six or eight dry broken leaves hanging down on the trunk, as many dry bent leaves, and fourteen or eighteen expanded green leaves on a tree at once, besides one or two middle expanded perpendicular leaves which afford the flax.

The

44.

The leaves grow closer or more distant on the trunk, according to the dry or wet weather; the leaves and leaf stalks before they are rotten, have a fine skin or gloss, which when cut down reflect the warm sun with intolerable heat on the bare soles of the feet.

45.

The leaf of this palm is not of the pinnated kind, or like them on old carvings and modern ornaments of marble and stone; but it is quite round, having about one hundred and eighty joints, whereby it was folded in its embryo and flaxy perpendicular state; the butt of the stalk may be nine, and the leaf ^{semi diameter} six foot from the center or end of the stalk.

46.

The oldest leaf withers at the points
B 3 first,

first, then die the stalks, then bend, then crack about where the hollow and broad part that embraced the trunk ends, and so hang down. Many other observations on the leaves are lost.

47.

Seed of Apple.

The apple is the colour of an Indian, brown, and most beautifully inclosed in scales, round, about two inches diameter, one eighth of an inch next the scales; is yellowish, eatable, and will ferment; within that is a hard black shell, with only one orifice; and the inner substance, or tree, is white, and very hard and clear when lying eight months on the moist soil, it swells into roots and leaves; they come all out at this one orifice, about the size of a ^{small} pea, and the hard shell adheres to the young sprout,
bound

the seed which forms the apple soon decays. -
its outside which forms the apple soon decays.

(23)

bound to it by a dry white substance like cotton, (which is all the remains of the hard, clear, white solid substance in it before vegetation,) a year after it ~~had~~ sprouted.

has

48.

One apple produces only one tree, and the tree is only propagated from the apple. The rest of this article lost. 

49.

The uses of this tree to the Indians are fourteen or fifteen thus,

1. They eat and ferment the outside pulp of the apple. Monkeys, &c. also eat this.

2. They strip a fine flax from the unexpanded perpendicular leaf or leaves, which they manufacture into durable hammocks.

3. The expanded leaves make temporary hammocks.

B 4

4. The

4. The same leaves also make temporary thatch.

5. The leaf stalks their hard skin cut off from the pulp, make quakes, durable things to carry fish, plantanes, &c. in, they plate them ingeniously.

6. The cabbage is eat as cabbage.

7. The cabbage is made into bread.

8. The trunk is used for a coffin to lay the dead in.

9. The worms are good food.

50.

In fine, many other little uses the various parts of this valuable and beautiful tree are made to answer, as accident and necessity require, which to people in their unpolished and natural state, answer all the end, of the bread of sorrow and care.

Stripping

51.

Stripping the young unexpanded leaf skins, twisting it and netting it, or joining it, parallelly for hammocks is the amusement, the easy, agreeable, and undrove employment, of elderly Indian women; the smell of this flax is very sweet, wholesome, and pleasing.

52.

I once found, clearing a piece of land, an oheeroo trunk neatly covered over with the same leaves, supported with sticks, containing a human skeleton, and planted at the sides with a broad leaved plant, that never flowers.—Emblem, I thought, of funereal woe! especially to those poor nations, who have no flowering, no blooming hopes, beyond the grave; I gave the skull to an ingenious surgeon, who
told

told me afterwards, he saw no difference between it and a white mans ; it was an Indian young man.

53.

Roots.

The observations on the roots I have lost ; but I well recollect that the first root it has is a long tubous root, producing small fibres.

54.

In about two years the joints where the leaves drop off, send out roots, and draw to the ground, and form a new root, which I call the horizontal root. This horizontal root is exactly like what Barbers use to puff out powder with, so formed by the old leaf joints, and is about a foot and a half long ; and a tree of 60 years age will have this old, shrunk, horizontal piece, whence the fibres of the roots in the second state
of

of vegetation issued, tho' what I call the horizontal root was in reality the first trunk. I have often stood struck with admiration at the wonderful skill, knowledge, and wisdom displayed in this gradation of the tree, from tubous root to horizontal.

55.

For if the tubous root was immediately succeeded by the trunk, or fibrous root, of its perfect vegetation, the trunk could never be the exact cylindrical perpendicular form it is, &c. &c. lost.

56.

The perfect trunk, or fibrous root, covers about two feet of the end of the trunk, which ends in a blunt point: this part is hard, through and through, from the strong, librical fibres of the roots entering it; and the very
end,

end, or blunt point of the trunk, does never enter into any solid soil, but the root fibres run off slopingly and perpendicularly, for many yards, into the solid clay, in thousands, not much ramified with small fibres.

57.

These perfect root fibres may be one-eighth of an inch diameter at the trunk, swelling for five or six feet from it to a quarter of an inch, and then sloping off to attenuated fibres, at their long deep ends.

58.

Miscellany Observations on this Tree.

The trunk is blackish coloured, jointed, and rugged a little; a good tree has a trunk 18 inches diameter, and 60 feet long from the roots, to the leaf stalk butt ends on the top.

59.

A learned and ingenious Gentleman, travelled and polite, I was told, often said that he thought this the finest of the vegetable creation, for ornament, beauty, grandeur: and a most studious Mechanic, of wonderful ingenuity in most arts, and charmed with Palladio's ideas of architecture, often told me he looked upon this tree as the most divine proportion, of a fine shaft, or pillar, and the top, or leaves, of a grand chapter.

60.

For my part, I consider the large round leaf of the Oheeroo, as much more regal and grand, more expressive of victory and power, than the other palm leaves usually sculptured as hieroglyphics of them, inasmuch as a grand circle, formed like the rays of the Sun (if my ideas are just) excels
a leaf

a leaf like a Moon four or five days old.

61.

The divine Milton has, in some part of Paradise Lost, "the Leafy Palm;" the expression is just, but not grand: Lord Shaftesbury, in his equally divine meditation, has "the Triumphant Palm;" this is better and more expressive.

62.

I have frequently thought the Oheeroo feed falling on the wet, overflooded, cold, turfy soil, represented the good man

—— fallen on evil days,

On evil days (now) fall'n, and evil tongues,
In darkness and with dangers compassed round,
And solitude!

But this is requisite to make the
apple burst, or rather sprout from
the

the orifice of the shell ; for if dry long, the apple shrinks, and rots into soft dust : thus we see that blessed is the man whom the Blessed chasteneth.

63.

The tubous root is succeeded by a horizontal, and the horizontal by a perfect, durable, strong, fibrous root ; thus the good man advances from strength to strength, till at last he appears like a stately palm before Adownoi in Zion ; a palm with green, glittering, victorious leaves, waving in the fine, warm, pure, healthy breeze of orient winds ; loaded with spadixes of apples : and this I hope will be the happy end of human nature :—then shall the Scripture be fulfilled.—“ They took the branches, the leaves of palms, and
went

went out to meet him ; and they exclaimed and they said,—Salvation attends God in the human form.”

John, 12, 13.

Great the doings of YIHOWVON,
Stupendous and all-delightful ;
His work majestic and beautiful,
And his justice stands for ever. PSAL. CXI.

PETER MURDOCH, Esq.

S I R,

I beg your Acceptance of these Observations, as a small Mark of my Esteem for you.



You will please Sir to observe that I do not imagine
this tree can ever be of any use in the West India
Islands, which are dry lands. But it shows the
Parental care of Divine Providence at least to-
wards the few wants of the poor indian tribes who
live along the coasts of America between the
great river of Orinoco & the still greater ri-
ver of Amazon — it is a Water Palm, so
to speak useful to the unpolished indians,
but of no use to the Whites as they cultivate
Plantains, Bananas, Yams, Caddas (which
in Cook's voyage are called Tarro) & other ground
Provisions — but this Palm tree particularly
from its Use, represents the state of the poor
or rather simple indian tribes whose wants
are few & many if not most of which are sup-
plied by this Palm. —

21 Sep. 1787

Yours

J

You have here Sir the two seeds, all I have,
the apple part will not keep, it soon rots
off, & decays. —



